

## **RAW SEQUENCE LISTING**

**The Biotechnology Systems Branch of the Scientific and Technical  
Information Center (STIC) no errors detected.**

Application Serial Number: 10/672,396A  
Source: 1Fw16  
Date Processed by STIC: 3/5/07

# ***ENTERED***



IFW16

## RAW SEQUENCE LISTING

DATE: 03/05/2007

PATENT APPLICATION: US/10/672,396A

TIME: 15:06:41

Input Set : A:\Sub 20574\_003610US.txt

Output Set: N:\CRF4\03052007\J672396A.raw

4 <110> APPLICANT: SANTI, DANIEL V.  
 5 REID, RALPH C.  
 6 KODUMAL, SARAH J.  
 7 JAYARAJ, SEBASTIAN  
 9 <120> TITLE OF INVENTION: SYNTHETIC GENES  
 12 <130> FILE REFERENCE: 300622010900  
 14 <140> CURRENT APPLICATION NUMBER: US 10/672,396A  
 15 <141> CURRENT FILING DATE: 2003-09-26  
 17 <150> PRIOR APPLICATION NUMBER: US 60/414,085  
 18 <151> PRIOR FILING DATE: 2002-09-26  
 20 <160> NUMBER OF SEQ ID NOS: 36  
 22 <170> SOFTWARE: FastSEQ for Windows Version 4.0  
 24 <210> SEQ ID NO: 1  
 25 <211> LENGTH: 42  
 26 <212> TYPE: DNA  
 27 <213> ORGANISM: Artificial Sequence  
 29 <220> FEATURE:  
 30 <223> OTHER INFORMATION: Synthetic construct  
 32 <400> SEQUENCE: 1  
 33 gcuaauaucgc uaucgaugag cugccactga gcaccaacta cg 42  
 35 <210> SEQ ID NO: 2  
 36 <211> LENGTH: 43  
 37 <212> TYPE: DNA  
 38 <213> ORGANISM: Artificial Sequence  
 40 <220> FEATURE:  
 41 <223> OTHER INFORMATION: Synthetic construct  
 43 <400> SEQUENCE: 2  
 44 gcuaugauc gaugcauuga gcuggcactt cgctcactac acc 43  
 46 <210> SEQ ID NO: 3  
 47 <211> LENGTH: 10641  
 48 <212> TYPE: DNA  
 49 <213> ORGANISM: Artificial Sequence  
 52 <220> FEATURE:  
 53 <223> OTHER INFORMATION: Synthetic construct  
 55 <400> SEQUENCE: 3  
 56 atggcagatc tgagcaaaact ctccgattct cgcaccgccc agccggggccg catcgctccgc 60  
 57 ccatggccgc tgtctggctg caatgaatcc gcattgcgtg ctgcgccccg gcagcttcgg 120  
 58 gcacacctgg accgttttcc ggacgcgggc gtggaggcg tgggtgcggc attggccac 180  
 59 gactgagcagg cggacgcagg tccgcatcgt gcggtggttg ttgcttcac gacctcagaa 240  
 60 ttactggatg gtcctggcgc ggtggccgat ggtcgcccc atgcgagcgt cgtacgcggg 300  
 61 gttgcgcgtc cttctgcccc ggtagtgttt gtgtttcctg ggcagggggc acagtgggca 360  
 62 ggtatggcgg gcgagctgct tggcgagtcg cgcgtgttcg ctgccgccat ggacgcctgt 420  
 63 gctcgcgcgt tcgaacctgt gacagactgg acgcttgac aggtcctgga tagccctgaa 480

*see p. 6*

## RAW SEQUENCE LISTING

DATE: 03/05/2007

PATENT APPLICATION: US/10/672,396A

TIME: 15:06:41

Input Set : A:\Sub 20574\_003610US.txt

Output Set: N:\CRF4\03052007\J672396A.raw

```

64 caaagccgcc gcgttgaagt ggtccagcca gcgttattcg ccgtgcaaac ttcgctagcg 540
65 gcgctctggc gttccttttg cgtgacccca gatgctgtgg ttggccattc aattggtgaa 600
66 ttagcagcgg cgcatgtttg cggtgccgca ggtgcggcgg atgcagcgcg cgcagcggca 660
67 ctgtggagtc gcgagatgat tccgttgggt ggcaacggcg acatggccgc tgtcgctctg 720
68 tcggcagatg aaattgaacc acgtatcgcg cgctgggacg atgacgtagt gctggcgggc 780
69 gtcaacggtc cgcgggtccgt cctgttgaca gggtcacctg aaccgtagc tcgtcggtg 840
70 caggaactga gcgccgaggg cgtacgcgcc caggtaatca atgttagcat ggctgcgcac 900
71 agcgctcagg ttgatgacat cgctgagggg atgcgtagtg ccctggcggt gtttgcccca 960
72 ggcggtcccg aagttccgtt ctacgcctca ctgaccggcg gtgcggttga taccgtagg 1020
73 ttagtagccg attactggcg tcgttctttt cggctaccgg tacggtttga tgaagcgatc 1080
74 cgcagtgcct tggaaagtag cccgggtacg tttgtcgaag cgagcccga tccgtgtgtg 1140
75 gcggcggcgc tgcaacagac cctggatgcc gaaggttcaa gcgcggctgt tgtacctaca 1200
76 ctgcagcgtg gtcaaggggg catgcgtcgc ttctgttgg ccgcggccca ggctttcact 1260
77 ggcgcgctcg cggttgactg gacggccgct tcatgatg tggtgcccga accaggttcg 1320
78 ctgcctgagt tcgctccggc cgaagaagag gacgagccgg cagagtccgg ggttgattgg 1380
79 aacgcacccg cacacgtgct ccgcgaacgt ctgctggctg tggtgaacgg ggagaccgca 1440
80 gctcttgacg gccgcgaagc tgacgcagag gcgacctttc gcgaattagg tctcgattct 1500
81 gtgttagcag ccagctgcg cgcgaaagtc agcgcggcca ttggccgtga agtgaatatt 1560
82 gcgctgttat atgaccatcc aaccgccggt gcaactgcgg aggcactgtc tagtgggacg 1620
83 gaagtagcgc aacgcgagac tcgcgccgtg acaaacgaag ctgcacctgg cgaaccaatt 1680
84 gcggtagtag cgatggcatg tcgtttaccg ggcggtgtat cgacctctga agagtctctg 1740
85 gagctgttgt cagaaggccg ggatgcgggt gcggggcttc cgactgacag aggggtgggac 1800
86 ctggatagcc tgttccaccc ggatccaact cgttcgggca ccgcccatca gcggggcggt 1860
87 gggtttctga ccgagggcgac ggcttttgat ccggccttct ttggtatgag cccgcgcgag 1920
88 gcgttagccg tggatcctca gcagcgcttg atgctggaac tttcttggga agtcttagaa 1980
89 cgtgccggca tcccgcgcac ttccctacag gcaagtccga cgggtgtttt cgtcgggctg 2040
90 attccgcagg agtacggccc acgtctggcg gaaggcggcg aaggggtgga aggtacctg 2100
91 atgacgggca cgactacatc ggtagcgtcc ggtcgtatcg cgtacacctt aggtttggag 2160
92 ggcccagcta tcagtgtcga tacggcgtgt tcttcgtcac tggtagccgt acatctcgcg 2220
93 tgccagagcc tgcgcgtggc cgaaagctct ctgccatgg cggcggtgtg taccgtgatg 2280
94 ccgacaccgg ggatgtgttg tgatttttgc cgcataaaca gcttggcgcc agatggctgc 2340
95 tgcaaagcgt tctcggtctg tgcgaaacggt ttccggcatg ctgaaggcgc gggcatgctg 2400
96 ctgctggaac gcttatctga cgcccgctgt aatgggcacc cagtgtggc agtgtgctg 2460
97 ggcaccgctg tgaatagcga tggcgctagc aacgggctgt ccgtccaaa tggtcgggcc 2520
98 caagtccgtg tgatccagca ggcgttagcg gaatcagggt tgggtccggc ggacattgat 2580
99 gccgttgaag cgcattgggac tggaaaccgt ctgggtgatc cgattgaggc ccgtgcactg 2640
100 tttgaagctt acggccgcga ccgtgagcag ccactgcac tgggcagtgt caaaagtaac 2700
101 ttagggcaca ccaggcagc cgctggcgta gcaggagtaa tcaaaatggt gcttgcgatg 2760
102 cgcgcgggca ccttaccgcg cactctccat gcaagcgagc gtagcaaaga aatcgactgg 2820
103 agcagcggtg ctatttcgct gcttgacgaa cctgagcctt ggctgctgg tgcccggccg 2880
104 cgccgtgccc ggggtgagcag ctttggcatc agcggtacca atgccatgc cattatcgag 2940
105 gaagccccac aggttgtaga aggggaacgt gttgaggtg gcgatgtagt tgcaccgtgg 3000
106 gtgttatcag cctcctcagc ggaaggtctt cgcgcacagg cggcgctttt ggcagcgcac 3060
107 ctgcgcgaac accctgggca ggaccacgt gacatcgct acagcctggc tacaggccgc 3120
108 gcggcgctgc cacaccgtgc ggcttttgcg ccgggtggacg aatccgcagc gctgcgcgtt 3180
109 ctggatggcc tggcgaccgg caatgcccag ggcgccggcg tgggtacaag ccgggctcaa 3240
110 cagcgtgctg tctctgtgtt ccttgccagc ggttggcagt gggcgggcat ggcgggtgac 3300
111 ctctgggaca caagtccggg gttcgcagcc gcgtcccggt agtgtgcaga tgccctggaa 3360
112 ccacatctgg attttgaagt cattccgttt ttacgtgccg aggcgcgcgc gcgcgagcag 3420

```

## RAW SEQUENCE LISTING

DATE: 03/05/2007

PATENT APPLICATION: US/10/672,396A

TIME: 15:06:41

Input Set : A:\Sub 20574\_003610US.txt

Output Set: N:\CRF4\03052007\J672396A.raw

```

113 gacgcgggctt tgagtacgga acgtgtggat gttgtgcaac ctgtgatggt tgcagtgatg 3480
114 gtttctcttg catccatgtg gcgcgcgcac ggcgtcgaac cggcagcggg gattgggcac 3540
115 agccaaggcg aaattgctgc cgcattgcgt gcaggggcac tgtccctgga tgatgcggcg 3600
116 cgcgtagtgg ccctgagatc tcgcgtgatt gctactatgc caggcaacaa agggatggcg 3660
117 tcaatcgcgg caccagccgg ggaagtgcgt gcacgtattg gcgatcgtgt ggagattgcc 3720
118 gctgttaatg gccacgcctc ggtggtagtg gccggtgaca gcgatgaatt agatcgtctc 3780
119 gtcgcatctt gtactaccga atgtattcgc gcgaaacgtc tcgccgtaga ttatgcgagc 3840
120 cattcatctc acgtagaaac gatccgtgac gcgctgcatg ccgaattagg tgaagatttc 3900
121 catccactgc ctggctttgt cctttttttt tcgaccgtga ccggccgttg gacccaacca 3960
122 gacgaactgg acgctggtta ttggtatcgt aatctccgtc gcacggtgcg ctttgcatat 4020
123 gcagtacggg ccctggcaga acagggctat cgcacgtttc tggaggtagg tgcgcatcca 4080
124 atcctgacag ccgcgattga ggagattggt gatggcagtg gcgccgacct gtccgcaatc 4140
125 catagcctgc gtcgcggcga cggcagcctg gcgatttttg gtgaagctct gagtctgca 4200
126 ttgcgggctg gcgtggcagt cgattgggag tctgtacacc tgggcactgg tgcccgcgcg 4260
127 gtaccgctgc cgacctatcc gtttcagcgc gaacgcgtgt ggctgcagcc gaaacctgtg 4320
128 gctcgcgggt ctaccgaggt tgatgaagtc tctgcgtgct gctaccgtat cgagtggcgt 4380
129 ccaactggcg ccggtgaacc ggcaacgctt gatggtacgt ggcttgtagc taaatatgcg 4440
130 ggcacagccg atgaaacgag cactgcggca cgcgaagcgc tggaatccgc tggggcccg 4500
131 gtgcgcgaac ttgtcgtcga tgcccgttgt ggccgggatg aattagcaga acgtctgcgt 4560
132 tcggtcggcg aagtcgccgg tgttctgagc ttactcgccg tcgatgaagc ggaaccagag 4620
133 gaagcgccgc tggcactggc aagcttagca gatacgtga gcctggttca ggctatggta 4680
134 tccgcggaac tggggtgccc gctgtggaca gtgaccgaat cagcagtggc tacgggcccg 4740
135 ttcgaaacgtg ttcgtaaatgc cgcacacggt gcgctgtggg gggtaggtcg tgttatcgcg 4800
136 cttgagaacc cggcggtctg gggcggtctc gttgacgtac ctgccggtag cgtggcggag 4860
137 cttgcgcgcc acttagccgc cgtggtttcg gggggcgcgag gcgaagatca actggcggtg 4920
138 cgtgctgatg gggtttacgg tcgtcggttg gtgcgcgcag cagcgcccg c aacagatgat 4980
139 gaatggaac cgacggggac cgttctggtg accggtggca ctggtggtgt aggcggccaa 5040
140 atcgcccgct ggtagcacg tcggggtgct cctcaccttc tctggttag ccgtagcggc 5100
141 ccggtgctg atggtgcggg cgaactggtt gcagaacttg aagccctggg ggccggtacc 5160
142 acggttgccg catgtgacgt gacggaccgc gactctgtgc gcgagctgtt gggcggtatt 5220
143 ggcgatgacg taccgttatc agccgtcttc catgcggcgg caaccttgga tgacggcacc 5280
144 gtcgatactc tgacaggtga acggttgaa cgcgcaagcc gcgccaagt gttagggcg 5340
145 cgcaatctgc atgagctgac acgtgagctg gatctgaccg cgttcgtgct gttttccagt 5400
146 tttgcgtcgg cttttggtgc accgggtctc ggccgggtatg cgccaggcaa cgcttacctg 5460
147 gatggttttg ccagcagcg tagatctgat ggtctgcctg ctaccgccgt ggcatggggg 5520
148 acgtgggcgg gctcaggtat ggccgaaggg gccgtagccg atcgctttcg gcgtcacggt 5580
149 gttattgaaa tgccgcctga aaccgcctgt cgtgccttac agaatgctct ggatcgcgca 5640
150 gaagtctgcc cgattgttat cgatgttcgt tgggaccgct ttttattagc gtacaccgcg 5700
151 cagcgctcaa cagccctggt tgatgaaatt gacgatgccc gccggggcggc cccgcaggcc 5760
152 cctgctgagc cagcgctagg tgccctggcc tccctcccgg ctccagagcg ggaagaagcg 5820
153 ctggtcgaac tgggtgcgctc acatgcggcg gcagtgtggt gccatgcgtc tgcggaacgc 5880
154 gtccctgctg accaagcttt cgcggagttg ggtgtggatt ctctttcagc gctggaactg 5940
155 cgtaaccgct taggcgcggc gacgggtgtg cgtcttccaa ccacgacagt gttcgatcac 6000
156 ccagatgttc gtacgttggt cgcctatctc gcggcggaat tgtctagtgc aaccggcgcg 6060
157 gaacaagcgg cacctgcgac gactgcgcgg gtgatgaac caattgctat cgtcggtatg 6120
158 gcttgtcgcc tgccgggtga ggtggactca ccggaacgtc tttgggaatt aattacctct 6180
159 ggccgggact ctgcggcgga ggttccagac gatcgcggtt ggggtgcctga tgagctgatg 6240
160 gctagtgcag ctgcggggac ccgtgcacat gggaacttca tggcagggtg cggtgacttc 6300
161 gatgcggctt ttttcggcat tagcccgct gaagcactgg cgatggatcc gcagcagcgc 6360

```

## RAW SEQUENCE LISTING

DATE: 03/05/2007

PATENT APPLICATION: US/10/672,396A

TIME: 15:06:41

Input Set : A:\Sub 20574\_003610US.txt

Output Set: N:\CRF4\03052007\J672396A.raw

```

162 caggcgctgg aaacgacctg ggaagcggtg gaaagtgcag gcattcctcc ggaaacctta 6420
163 aggggtagtg acacgggtgt ttttgtgggt atgtctcacc agggctacgc aacggggcgt 6480
164 ccacgtccgg aagacggcgt cgacggttat cttttaaccg gcaacaccgc aagtgtcgcg 6540
165 agtgggcgta tcgcctatgt cctgggggtg gagggcccgg cacttactgt ggacacggca 6600
166 tgttccagca gtctgggtggc cttgcacacc gcgtgtggga gtttacggga cggtgattgc 6660
167 ggcctggctg ttgcgggtgg cgtctcagta atggcgggcc cggaagtatt taccgagttc 6720
168 tcgcgtcagg gtgcgtgtgc cccggatggc cgctgtaaac cgttttccga tgaagctgat 6780
169 ggcttcgggc tgggcgaagg tagcgcggtc gttgttttac aacgtctgtc ggatgcgcgc 6840
170 cgtgaaggtc gccgcgtttt aggtgtggtc gcagggtcgg ccgtgaacca ggatggcgct 6900
171 agcaacggtc tgcggctcc ttccggtgta gctcagcagc gcgtgatccg tcgcgcctgg 6960
172 gctcgtgcgg gtattacggg agccgatgta gcgggtgggt aagcgcacgg aactgggtact 7020
173 cgtctgggcg atccagttga ggcacggccc ctgctggcta cttacggcaa atcacgcggc 7080
174 agcagtggtc cgggtgtgct ggggtcggtc aaatccaata ttggtcatgc ccaagccgcc 7140
175 gctggcggtg cgggcgtgat caaagtgtcg cttggtcttg aacggggcgt ggttccgcct 7200
176 atgctgtgcc gtggggtagc gtcagggtcg attgactgga gttctgggga gatcgaactc 7260
177 gccgacgggg tgccgcaatg gtccccggca gcagatggcg tacgtcgtgc gggcgtttca 7320
178 gcctttggtg tgagcggtac caatgcccac gtgattattg cggaaccgcc ggaaccggag 7380
179 ccggtgccgc agcctcgtcg tatgctgcct gccacgggtg tagttccggt tgtgtgtca 7440
180 gctcgtacgg gtgctgcgtc gcgtgcgcag gctggccgtc tggcggatca tttagcggcg 7500
181 caccgcggca ttgctccggc cgacgtgtcc tggacgatgg cgcgcgcccg ccaacacttt 7560
182 gaagaacgtg ctgctgtgct tgcagccgat accgccgaag cagttcaccg gttgcgtgct 7620
183 gtcgcagacg gcgtgtggtt ccctggtgtt gtgactggta gcgcgagtga tggtagggagc 7680
184 gttttcgttt tccctggcca gggggcccaa tgggagggca tggcccgcga actgctgcct 7740
185 gttccggttt tcgccgaatc tattgccgaa tgcgatgctg ttctcagtga ggtggccggt 7800
186 tttagcgtgt cgggaagttt agagccgcgc ccggatgcac cgtccctgga gcgggtggat 7860
187 gtggtgcaac cagtgtgtt tgccgtgatg gtgtctttgg cgcgcttatg gcgtgcgtgt 7920
188 ggcgcggttc catcggtgtt tattggacat agccaggggc aaattgcggc ggcggtagtt 7980
189 gcagggtgcg tgcacttga agatggcatg cgcgtcgttg ctcgtagatc tcgcgccgtc 8040
190 cgtgcagttg cggggcgtgg gagtatgctg tcggtacgtg gtggtcgcag cgatgtcgag 8100
191 aaactgctgg cggatgacag ctggacgggg cgacttgaag tagcggccgt aaatggtcct 8160
192 gacgcgtcg tcgtcgtgg tgacgcgcag gcggcacgtg agttcttaga atattgtgaa 8220
193 ggcgttggca tccgtgcccg cgcgattcct gtggattacg ccagtcatac cgcccatgtg 8280
194 gaaccagtgc gcgatgaact tgtgcaggct ctggcgggta tcacgcgcg ccgggcggaa 8340
195 gtcccatctt tttccactct gaccggcgat tttttggatg gtacggaatt agatgcaggc 8400
196 tattggtatc gcaacttacg tcaccgggtc gaatttcatt cagcggtaaa ggcgtgacg 8460
197 gatcagggtt acgcaacttt tattgaagta agccgcgcat ctgtgctggc atcgtcagta 8520
198 caggaaaccc tggatgacgc tgaatctgat gctgccgtct tgggcaactc ggaacgcgat 8580
199 gcgggcgatg cggaccgttt tctgactgcc cttgctgatg ccatacgcg tggcgtagca 8640
200 gtcgattggg aggcggttct gggccggggc ggccttggtg atcttccggg ttaccggttc 8700
201 cagggcaaac gcttctggct gcagcctgat cggaccactc cgcgtgacga actggatggt 8760
202 tgggtctatc gcgtcgactg gacggagggt ccgcgttctg aaccggcagc acttcggggc 8820
203 cgtcggtggg tggttgtccc ggaaggtcat gaggaagacg gctggaccgt ggaggtccgt 8880
204 tccgctctgg ccgaagcggg ggcgaaccg gaggtgaccc gtggcgtggg cggcctcgtc 8940
205 ggcgattgcg cgggcgtagt cagcttactg gcattggagg gcgacgggtc tgttcagacc 9000
206 ttggtcctcg tccgtgaatt ggacgtgag ggcattgatg ccccgttatg gacggtcact 9060
207 ttccggcgcg tggatgctgg tccccagtc gcccggcctg atcaggcgaa actgtggggg 9120
208 ctccggcaag tagcatcgtt ggaacgtggg ccacgtgga ctggtctggt ggacttgccg 9180
209 cacatgccgg atccagagct gcgcggacgc ctgacggcag ttcttgccgg ctctgaggat 9240
210 caggtcgctg ttctgtgcga tgccgtccgg gcccgccgtc tgagccctgc gcatgtcacc 9300

```

## RAW SEQUENCE LISTING

DATE: 03/05/2007

PATENT APPLICATION: US/10/672,396A

TIME: 15:06:41

Input Set : A:\Sub 20574\_003610US.txt

Output Set: N:\CRF4\03052007\J672396A.raw

```

211 ggcacctccg aatacgccgt gccggggcggc acgatttttg ttaccgggtgg gaccgcaggg 9360
212 ctgggtgcgg aagtcgcccc ctggctggca ggccgtggcg ctgaacatct ggcactgggtg 9420
213 agtcgccggg gtcttgacac cgaaggggtc ggcatctga ccgccgaact gaccgcgttg 9480
214 ggtgcccgcg ttacgctgca ccgctgcgat gtatcttcac gtgaaccagt gcgtgaactg 9540
215 gtgcacggcc tgattgaaca aggcgatgtg gtacgtggcg tggcccatgc tgcgggcttg 9600
216 ccgcagcagg tggcgatcaa tgacatggat gaggcgccgt ttgacgaagt cgtcgcggct 9660
217 aaagctggtg gcgcggttca tctggacgaa ctttgcagcg atgccgaact tttcctgtta 9720
218 ttttagcagc gtgctggcgt ctggggggagc gcgcgccaaag gtgcctatgc agcgggtaac 9780
219 gccttccttg acgccttcgc tcgtcacccg ccggtgcgcg gtttaccggc taccagtgtt 9840
220 gcatggggcc tgtgggcgcg aggtgggatg acgggggatg aagaggccgt aagctttctg 9900
221 cgtgaacgtg gcgtacgcgc catgccagta ccgctgcgcg tggctgcttt agatcgcgtg 9960
222 ttggcatccg gggagaccgc cgtcgtagtt accgatgtgg actggcctgc gtttgccgaa 10020
223 tcttacaccg ccgcccgtcc gcgccattg ctggaccgta tcgttaccac ggcaccgagc 10080
224 gagcgccgtg gcgacgcgga aaccgaatcc ctgcgcgatc gcttggccgg gctccctcgt 10140
225 gcggaacgta cggcgagct cgttcgtttg gtgcgcacgt cgacggcaac cgttctgggt 10200
226 cgcgacgatc cgaaagccgt gcgggccacc accccattta aagaattggg tttcgactct 10260
227 cttgctgcgc tgcgcctccg taatctgctc aatgcggcaa ctggcctgcg cctgccgtcc 10320
228 acgcttggtt tcgatcatcc gaacgccagt gctgtgcgcg gtttcttgga tgcgtagctg 10380
229 tctagtgaag tgcgtggcga agctccgtcc gccctggctg gtctggatgc attggagggc 10440
230 gcgctgccgg aagtgcctgc gacggaacgt gaggagctgg tccagcgtct ggaacgcagt 10500
231 ctgcggcac tgcggccggt agcccaagca gctgacgcga gtggtaccgg cgcgaaccca 10560
232 agcgggtgac atcttggtga agccggtgtt gatgaactgt tggaggcttt agggcgcgaa 10620
233 ttagatgggg acgggaattc t 10641
237 <210> SEQ ID NO: 4
238 <211> LENGTH: 10710
239 <212> TYPE: DNA
240 <213> ORGANISM: Artificial Sequence
242 <220> FEATURE:
243 <223> OTHER INFORMATION: Synthetic construct
245 <400> SEQUENCE: 4
246 atgacagaca gtgagaaagt tgctgagtat ctgcgcgcgc ccaccctgga tcttcgtgcg 60
247 gcacgccagc gcatccgtga actggaaagt gatccaattg ctattgtcag catggcgtgt 120
248 ccgctgccag ggggtgttaa tacgccacag cgttctgtgg agttactgcg tgagggtggc 180
249 gaaactctgt cgggctttcc tactgaccgt ggctgggacc tggcacgtct gcaccaccgc 240
250 gatccagaca atccggggac gtcatacgtg gataaaggcg gtttcttgga cgacgcgcga 300
251 ggcttcgacg ccgagttttt tgggtgtgag ccgctgagg ctgcggcgat ggatcctcag 360
252 caacgcttgt tactggaaac ctctgggaa ctggtggaaa acgcaggtat cgaccgcac 420
253 agcttaagag gtacggcgac ggggtgtctc ctgggtgttg cttaaatttg ctatggtgaa 480
254 gataccgcgc ctgcggagga cgtagaaggg tactcggtga ccgggggtgg gcccgcggtg 540
255 gcgtccggcc gtatttccta cactatgggc ctggaggggc cgtcgattag cgtcgatacc 600
256 gcttgctcct cctcattagt tgcgttacac cttgccgttg agtctctgcg taaaggggag 660
257 agcagcatgg cggttgtcgc tggcgcgccc gtcatggcaa cacctggcgt tttcgtcgat 720
258 ttttctcgcc aacgtgcact ccgagcggat ggtcggagca aagccttttg ccggggcgcc 780
259 gatggtttcg gctttagcga aggtgtaacc ttggttctgc tggagcgtct gtccgaagcg 840
260 cggcgcaacg gccatgaagt gctggctgtc gttcgtggga gcgcactgaa ccaagatggc 900
261 gctagcaatg gcttgagcgc tccttcggg ccagcacagc gccgtgtaat tcgccaagcg 960
262 ctggaaagct gcggtctcga accaggcgat gtggacgcgg tagaagcaca cggcacgggc 1020
263 acggctctgg gtgatccgat tgaggcaaac gctttgctgg atacctatgg ccgtgatcgt 1080
264 gatgcagacc gccactttg gctgggctct gttaaatcaa acatcgcca taccaggcg 1140

```

RAW SEQUENCE LISTING ERROR SUMMARY  
 PATENT APPLICATION: US/10/672,396A

DATE: 03/05/2007  
 TIME: 15:06:42

Input Set : A:\Sub 20574\_003610US.txt  
 Output Set: N:\CRF4\03052007\J672396A.raw

FyI

**Please Note:**

Use of n and/or Xaa have been detected in the Sequence Listing. Please review the Sequence Listing to ensure that a corresponding explanation is presented in the <220> to <223> fields of each sequence which presents at least one n or Xaa.

Seq#:20; Xaa Pos. 2,4,5,6,8  
 Seq#:26; N Pos. 1,2,3,10,11,12,13,14,15,16,17,18,19,20,21,22,23,24,25,26,32  
 Seq#:26; N Pos. 39,40,41,42  
 Seq#:27; N Pos. 1,2,3,10,16,17,18,19,20,21,22,23,24,25,26,27,28,29,30,31,32  
 Seq#:27; N Pos. 39,40,41,42  
 Seq#:28; N Pos. 1,2,3,10,11,12,13,14,15,16,17,18,19,20,21,22,23,24,25,26  
 Seq#:29; N Pos. 6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,29,30,31,32  
 Seq#:29; N Pos. 33  
 Seq#:30; N Pos. 1,2,3,10,11,12,13,14,15,16,17,18,19,20,21,22,23,24,25,26,32  
 Seq#:30; N Pos. 33,34,35,36,37,38,39,40,41,42,43,44,45,46,47,48,55,56,57,58  
 Seq#:30; N Pos. 59  
 Seq#:34; N Pos. 5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,28,29,30  
 Seq#:35; N Pos. 1,2,3,4,5,12,13,14,15,16,17,18,19,20,21,22,23,24,25,26,27  
 Seq#:35; N Pos. 28  
 Seq#:36; N Pos. 1,2,3,4,5,6,13,14,15,16,17,18,19,20,21,22,23,24,25,26,27,28  
 Seq#:36; N Pos. 29,35,36,37,38,39,40,41,42,43,44,45,46,47,48,49,50,51,58,59  
 Seq#:36; N Pos. 60

**Invalid Line Length:**

The rules require that a line not exceed 72 characters in length. This includes spaces.

Seq#:33; Line(s) 1887

## VERIFICATION SUMMARY

DATE: 03/05/2007

PATENT APPLICATION: US/10/672,396A

TIME: 15:06:42

Input Set : A:\Sub 20574\_003610US.txt

Output Set: N:\CRF4\03052007\J672396A.raw

L:1709 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:20 after pos.:0  
L:1785 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:26 after pos.:0  
L:1802 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:27 after pos.:0  
L:1819 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:28 after pos.:0  
L:1836 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:29 after pos.:0  
L:1854 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:30 after pos.:0  
L:1904 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:34 after pos.:0  
L:1921 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:35 after pos.:0  
L:1939 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:36 after pos.:0